



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/755,471 | 01/13/2004 | Hideyuki Nakamura | Q78638 | 9936 |

23373 7590 11/27/2006
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

TRAN, LY T

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2853

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/755,471

Applicant(s)

NAKAMURA, HIDEYUKI

Examiner

Ly T. TRAN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjiro et al (USPN 2000-001044) in view of Kuroki (US 20030138607) and Tohma (EP 281075).

With respect to claims 1, 8 and 17, Kenjiro discloses a transfer medium (1) for ink jet recording which comprises a base material (element 11), a cushion layer (element 14), a release layer (element 13) having a thickness of from 0.02-10 μm ([0020]) and a transfer layer (element 12) having thickness of from 0.02-20 μm ([0021]).

With respect to claims 2-4, since Kenjiro discloses the release layer is made of as the same material as the present invention such as polyamide or polyvinyl chloride ([0021]), the permeability of the release layer should be at from 400 to 700 nm is 70%, or 80% or 90% or more

With respect to claim 5, since Kenjiro discloses the transfer layer is made of the same material as the present invention such as polyvinyl alcohol or clay or talc, the transfer layer should be capable of absorbing an ink solvent.

With respect to claim 6, since Kenjiro discloses the cushion layer is made of the same material as the present invention such as acrylic resin, the cushion layer should be capable of absorbing an ink solvent.

With respect to claim 9, Kenjiro discloses the release layer and the transfer layer are simultaneously transferred onto a transfer substrate (fig.2).

With respect to claims 10-12, since Kenjiro discloses the transfer layer is made of the same material as the present invention such as polyester, polyamide or polyvinyl alcohol ([0021]), the transfer layer should comprises matt grains and having a thickness of 0.02-1 μm and comprises a thermoplastic resin.

However, Kenijjo fails to teach a cushion layer havng a TMA softening pint of 45 degrees or below and an interlayer adhesion between is from 0.5 to 400 g/cm or from 2 to 50 g/m.

Tohma teaches an interlayer is from 1-10 g/cm (Abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify to have the interlayer adhesion is from 1-10g/cm as taught by Tohma. The motivation of doing is to obtain an excellent transferability.

Kuroki teaches a cushion layer having a TMA softening pint of 45 degrees or below (Column 3: [0036]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the TMA softening point of 45 degrees or below as taught by Kuroki. The motivation of doing so is to improve solid image quality.

3. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjiro (JP 2000-001044) in view of Kuroki (US 20030138607) and Tohma (EP 281075) as applied to claim 1 above, further in view of Sato et al (USPN 6,652,928).

The combination of Kenjiro, Tohma and Kuroki fails to teach the thermoplastic resin has a particle size of 0.5-100 μ m and has a melting point of from 70-200 $^{\circ}$ C.

Sato teaches the thermoplastic resin has a particle size of 0.5-100 μ m and has a melting point of from 70-200 $^{\circ}$ C.

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify to have a particle size of 0.5-100 μ m and has a melting point of from 70-200 $^{\circ}$ C as taught by Sato. The motivation of doing so is obtain a clearer image.

4. Claims 15, 18 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjiro (JP 2000-001044) in view of Martin et al (USPN 2004/0041894), Kuroki (US 20030138607) and Tohma (EP 281075)

With respect to claim 15 and 18, Kenjiro discloses an image formation method comprising a transfer medium (1) for ink jet recording which comprises a base material (element 11), a cushion layer (element 14), a release layer (element 13) having a

thickness of from 0.02-10 μm ([0020]) and a transfer layer (element 12) having thickness of from 0.02-20 μm ([0021]) with the use of an ink containing a pigment or dye, locating face to face a transfer substrate and the transfer face of the transfer medium and stripping off the transfer medium from the transfer substrate to thereby transfer the transfer layer and the release layer onto the transfer substrate (fig.2)

With respect to claim 16, Kenjiro discloses the release layer and the transfer layer are simultaneously transferred onto a transfer substrate (fig.2).

Kenjiro discloses the claimed invention except that using only pressure instead of heating and pressurizing. Martin shows that pressurizing and the combination of heating and pressurizing is an equivalent structure known in the art. Therefore, because these pressurizing and the combination of heating and pressurizing were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the combination of heating and pressurizing for pressurizing the same purpose such as transfer the image.

However, Kenjiro fails to teach the softening point of the cushion layer is 60 degrees or below an interlayer adhesion between is from 0.5 to 400 g/cm

Kuroki teaches the softening point of the cushion layer is 60 degrees or below (Column 3: [0036]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the TMA softening point of 45 degrees or below as taught by Kuroki. The motivation of doing so is to improve solid image quality.

Tohma teaches an interlayer is from 1-10 g/cm (Abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify to have the interlayer adhesion is from 1-10g/cm as taught by Tohma. The motivation of doing is to obtain an excellent transferability.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenihiro et al (USPN 2000-001044) in view of Kuroki (US 20030138607) and Tohma (EP 281075) as applied to claim 1 above, further in view of Takimoto et al (USPN 5,419,989).

The combination of Kenijjo, Tohma and Kuroki fails to teach the Vicat softening point of 80 degrees or below and the thickness of 10 or more.

Takimoto teaches the Vicat softening point of 80 degrees or below (Column 7: line 20-33) and the thickness of 10 or more (Column 4: line 60-61).

It would have been obvious to one having ordinary skill in the art a the time the invention was made as modify to have the Vicat softening point of 80 degrees or below and the thickness of 10 or more as taught by Takimoto. The motivation of doing so is to increase the adhesive strength.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjiro (JP 2000-001044) in view of Martin et al (USPN 2004/0041894), Tohma (EP 281075) and Kuroki (US 20030138607) as applied to claim 15 above, further in view of Takimoto (USPn 5,419,989).

The combination of Kenijjo, Martin, Tohma and Kuroki fails to teach the Vicat softening point of 80 degrees or below and the thickness of 10 or more.

Takimoto teaches the Vicat softening point of 80 degrees or below (Column 7: line 20-33) and the thickness of 10 or more (Column 4: line 60-61).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify to have the Vicat softening point of 80 degrees or below and the thickness of 10 or more as taught by Takimoto. The motivation of doing so is to increase the adhesive strength.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T. TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/755,471


Page 8

Art Unit: 2853

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LT

November 22, 2006



STEPHEN MEIER
SUPERVISORY PATENT EXAMINER